



Chapter Sections:

D.1 Overview

D.1 Overview

D.2 Phase One Project Cut Sheets

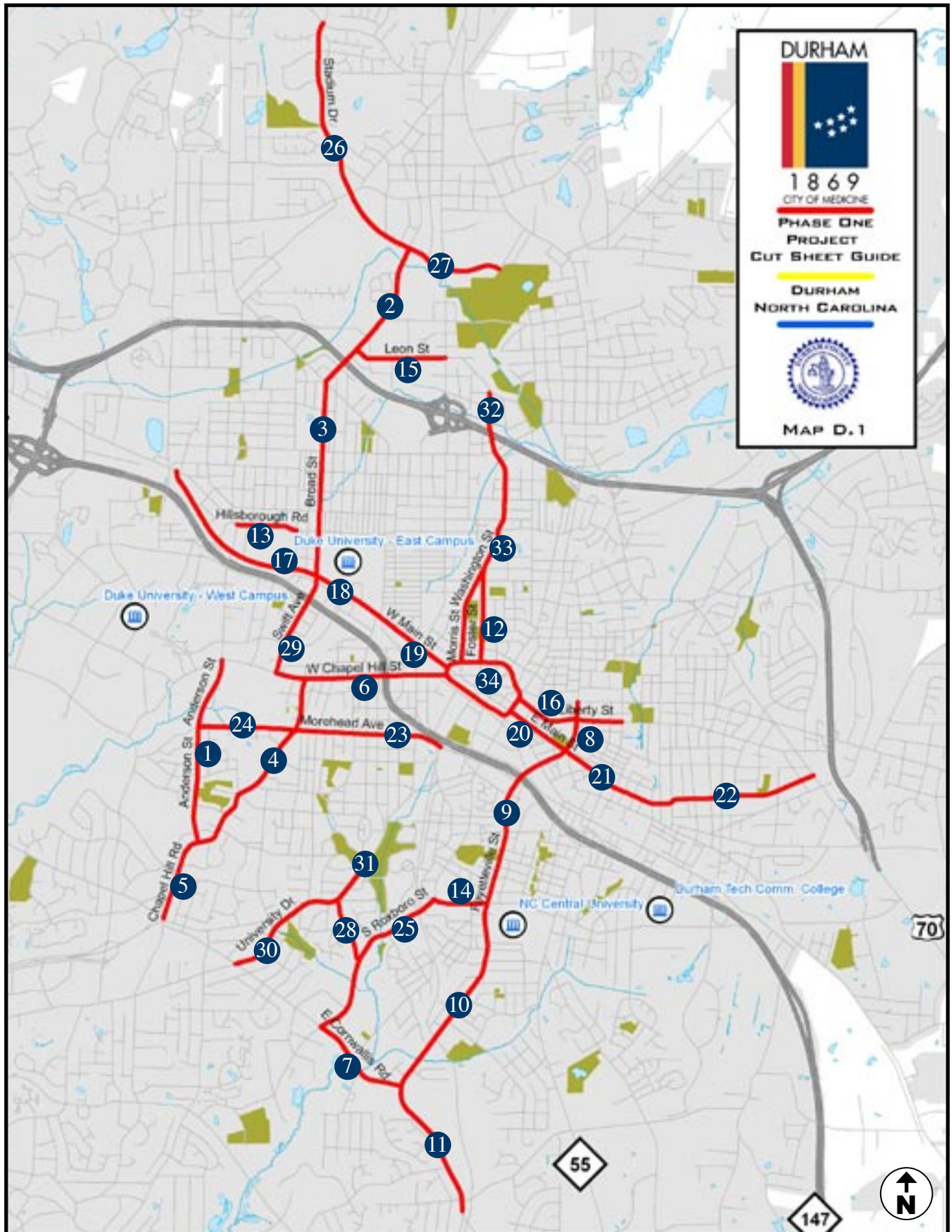
Developing a long-range bicycle route network plan for Durham County involved a significant amount of geographic information system (GIS) mapping. In addition to paper maps, several GIS shapefiles (map layers) were developed. The first GIS shapefile created was a bicycle route inventory, based on the Durham County road centerline shapefile. The inventory should be updated as new facilities and roads are constructed. In addition to containing information on proposed bicycle facilities, this database also holds a record of all existing on-street bicycle facilities as of August 2006.

Another significant product of this plan, is an updated GIS shapefile of Durham's greenway system. The 2006 Greenway/Trail shapefile contains elements that pertain to bicycle transportation from the 2001 Durham Trails and Greenways Plan, as well as new greenway recommendations from this planning effort. This layer was also created to aid cataloging and future development of the bicycle network. These two databases, and the planning process that led to them, formed the foundation for recommendations that follow in the ensuing maps.

D.2 Phase One Project Cut Sheets

The following cut sheets are meant to be used as guides for short-term implementation of Phase One projects. They were developed to illustrate the projects that are most feasible for the short term, due to their relatively inexpensive nature and ease of construction. The cut sheets outline recommended 'striping' and 'road diet' projects, as well as top priorities from the Prioritization Matrix (Appendix B). Field work conducted during the planning process helped to identify and confirm these opportunities.

Striping projects were identified on road segments that, under existing conditions, are wide enough to paint a 5' bicycle lane. 'Road diet' projects were identified on road segments that possessed an excess width, and could therefore go on a 'diet' to make room for bike facilities. 'Road diet' situations can generate space for a bicycle facility by either reducing the width of automobile travel lanes, relocating on street parking, and in some cases, removing an automobile lane entirely (if traffic volumes are low enough to warrant the reduction).





Project: Anderson Street

Boundaries:

Chapel Hill Road
Duke University Road

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe

Function:

Bicycle Commuter Route
Neighborhood Connector

Trip Generators:

Duke University - West Campus
Lakewood School

Existing
30' Roadway
2 Lanes

Recomendation
Stripe 5'
Bicycle Lanes

Existing
36' Roadway
2 Lanes

Reccomendation
Stripe 5'
Bicycle Lanes

Project: Broad Street

Boundaries:

Guess Road
Stadium Drive

Facility:

5' Bicycle Lanes

Project Type:

Paint - Road Diet/Stripe

Function:

Bicycle Link Over I-85
Local North-South Route

Trip Generators:

North Pointe Shopping Center
High Density Residential Areas

Existing
40' Roadway
3 Lanes

Recommendation
Stripe 5'
Bicycle Lanes

Existing
40' Roadway
3 Lanes

Recommendation
Stripe 5'
Bicycle Lanes





Project: Broad Street

Boundaries:

Main Street

Guess Road

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe

Function:

Local North-South Route

Bicycle Commuter Route

Trip Generators:

Duke University - East Campus

Ninth Street Commercial Area

Existing
44' Roadway
2 Lanes

Recomendation

Stripe 5'
Bicycle Lanes

Project: Chapel Hill Road

Boundaries:

Chapel Hill Street
Ward Street

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe/Road Diet

Function:

Bicycle Transportation Route
Local North-South Route

Trip Generators:

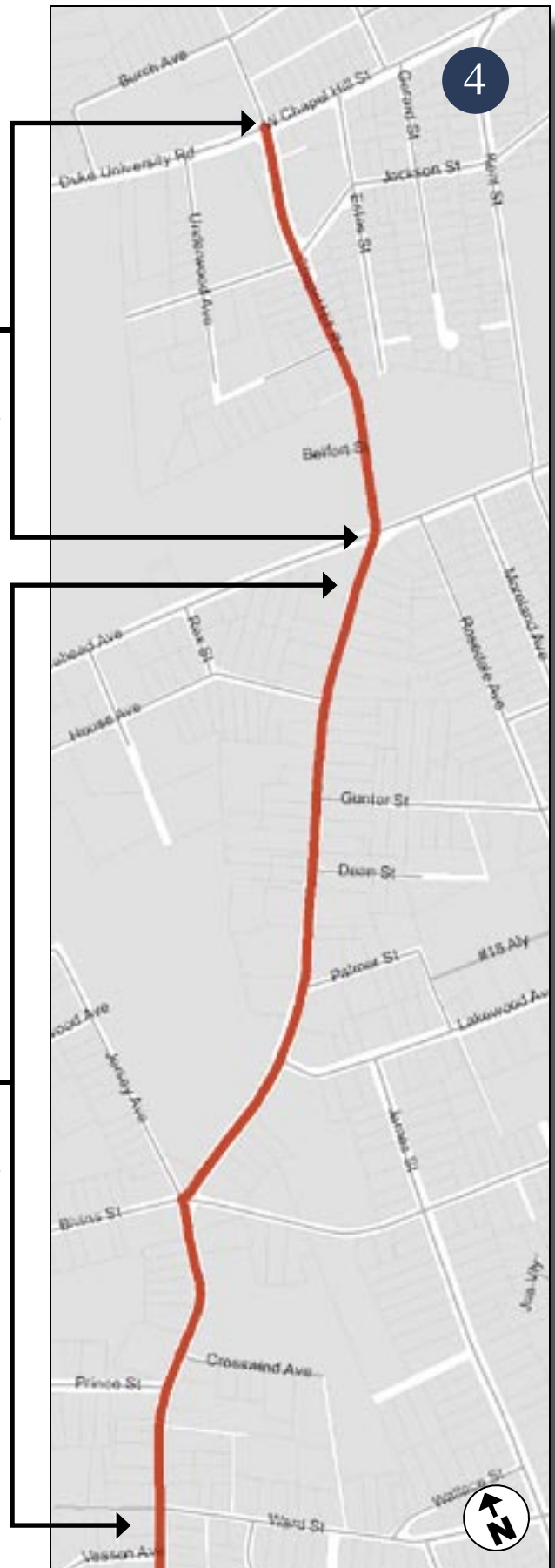
Duke University
Lakewood Shopping Center

Existing
30' Roadway
2 Lanes + Parking

Recommendation
Stripe 5' Bicycle
Lanes and Relocate
Parking or Stripe
Edgelines

Existing
36' Roadway
2 Lanes + Limited
Parking

Recommendation
Stripe 5' Bicycle
Lanes and Relocate
Parking





Existing
36' Roadway
2 Lanes + Limited
Parking

Recommendation
Stripe 5' Bicycle
Lanes and Relocate
Parking or Stripe
Edgelines

Existing
42' Roadway
2 Lanes + Limited
Parking

Recommendation
Stripe 5' Bicycle
Lanes

Project: Chapel Hill Road

Boundaries:

Ward Street
Cornwallis Road

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe

Function:

Bicycle Commuter Route
Local North-South Route

Trip Generators:

High Density Residential Areas
Duke University

Project: Chapel Hill Street

Boundaries:

Downtown Loop
Duke Univ. Road

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe/Road Diet

Function:

Connection to Existing Bicycle Lane
Bicycle Commuter Route

Trip Generators:

Duke University
Downtown Business District

Existing
50-56' Roadway
4-5 Lanes +
Limited Parking

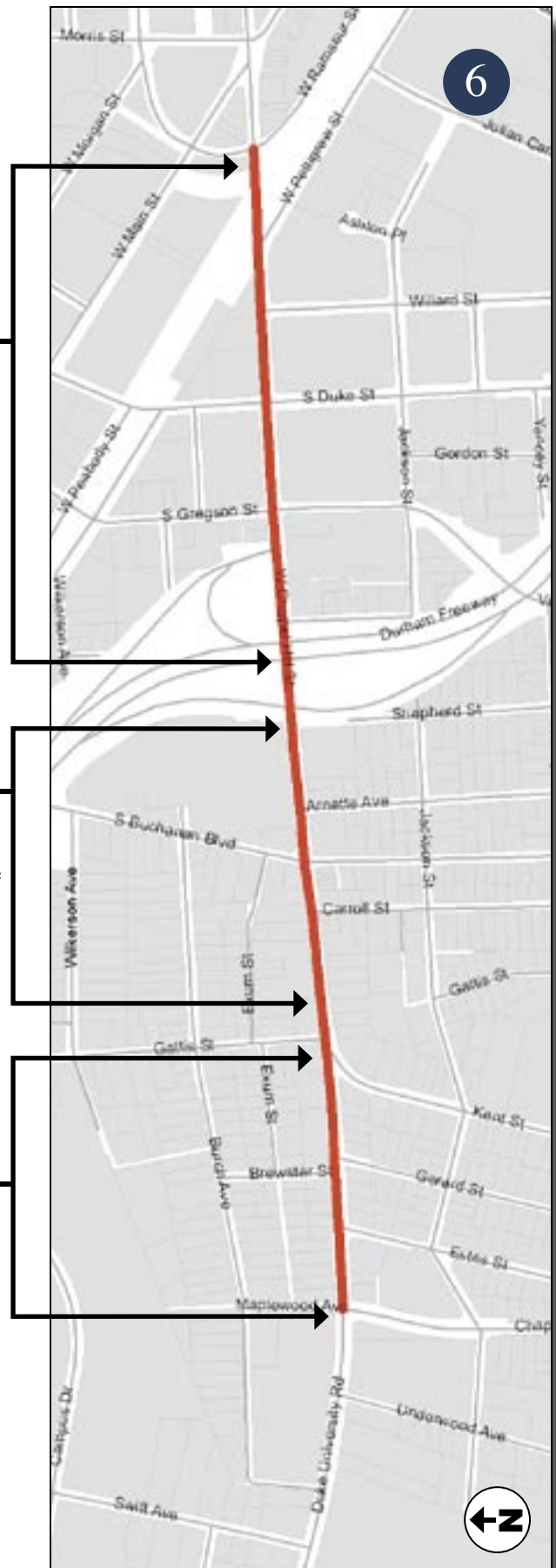
Recommendation
Stripe 5' Bicycle
Lanes and Reduce
Travel Lane Width

Existing
40' Roadway
3 Lanes + Limited
Parking

Recommendation
Stripe 5' Bicycle
Lanes and Relocate
Parking to One
Side of the Street
or Stripe Edgelines

Existing
40' Roadway
2 Lanes + Limited
Parking

Recommendation
Stripe 5' Bicycle
Lanes and Relocate
Parking to One
Side of the Street





Project: Cornwallis Road

Boundaries:

Roxboro Road
Fayetteville Street

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe/Restripe

Function:

Major East-West Route
Bicycle Commuter Route

Trip Generators:

- Schools
- High Density Residential Areas

Existing

64' Roadway
5 Lanes

Recommendation

Stripe 5' Bicycle
Lanes and Reduce
Lane Width

Project: Elizabeth Street

Boundaries:

Main Street
Geer Street

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe/Restripe

Function:

Bicycle Transportation Route
Major North-South Route Component

Trip Generators:

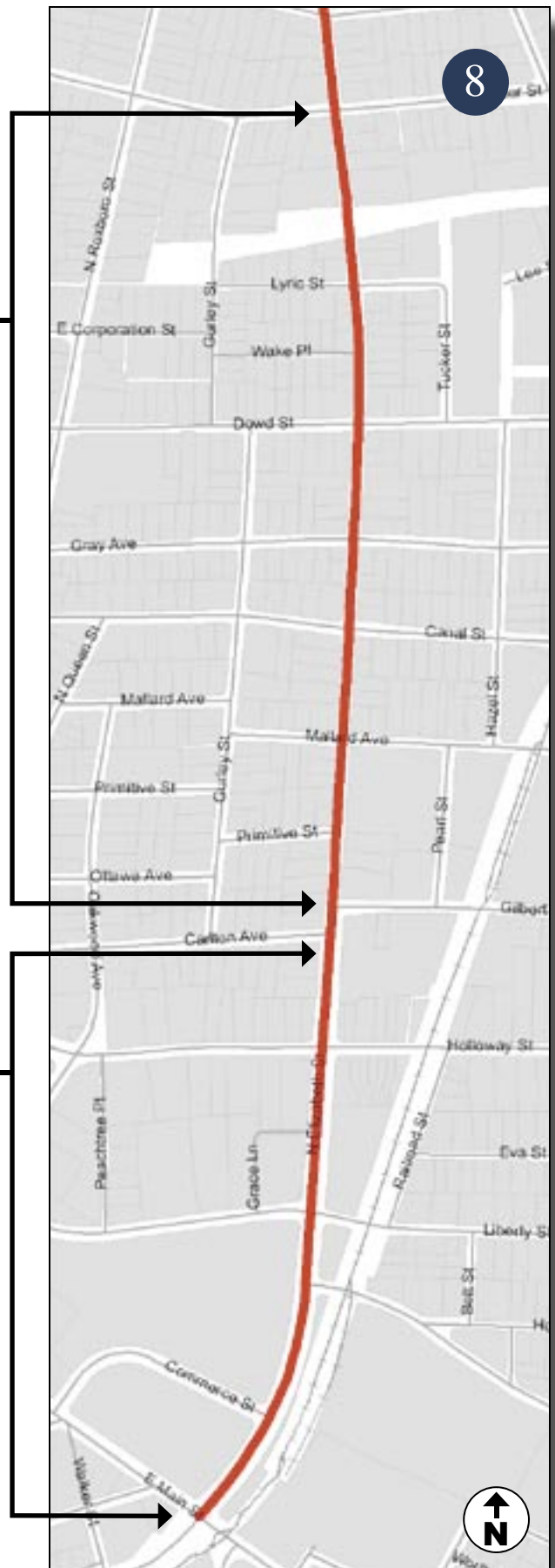
High Density Residential

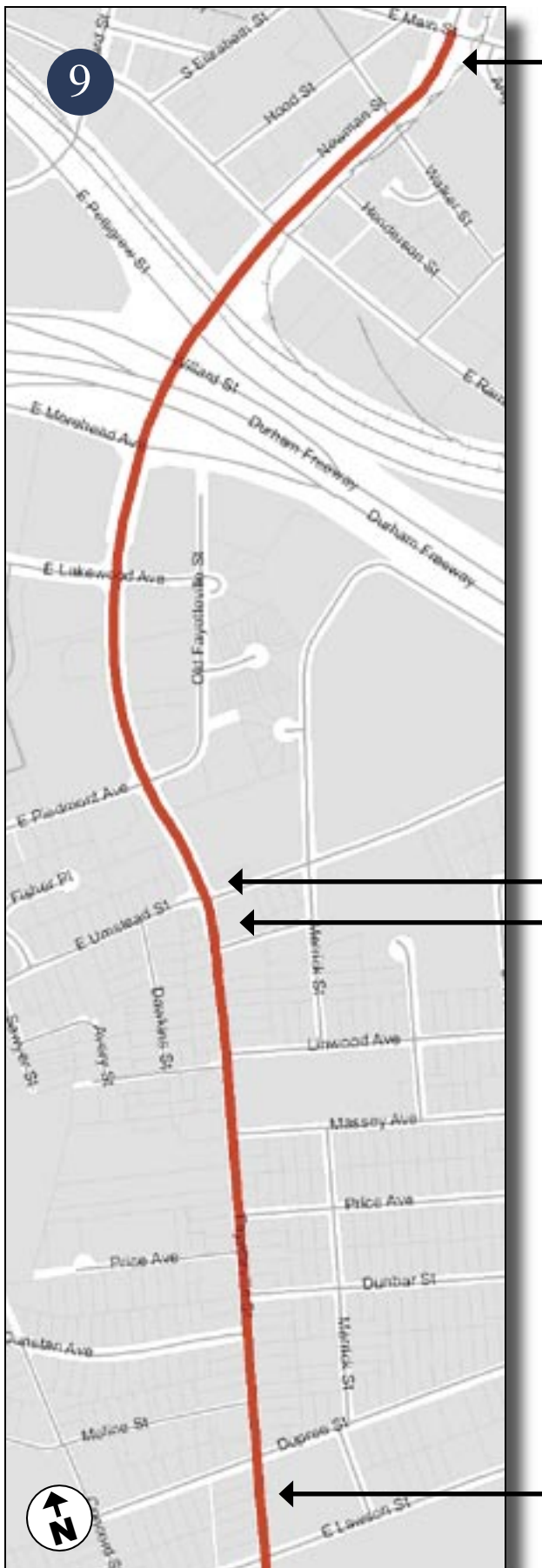
Existing
30' Roadway
2 Lanes + Parking

Recommendation
Convert to
Sharrow/Shared
Road

Existing
60' Roadway
5 Lanes

Recommendation
Stripe 5' Bicycle
Lanes and Reduce
Lane Width





Project: Fayetteville Street

Boundaries:

Main Street

Lawson Street

Facility:

5' Bicycle Lanes

Project Type:

Paint - Restripe

Function:

Major North-South Route

Bicycle access over NC 147

Trip Generators:

NC Central University

Hayti Cultural Center

Existing

60-70' Roadway

4-5 Lanes

Recomendation

Stripe 5' Bicycle

Lanes and Reduce

Lane Width

Existing

30' Roadway

2-3 Lanes

Recomendation

Paint Sharrow
Marking and in
Long Term Stripe
5' Bicycle Lanes if
Roadway Width is
Increased

Project: Fayetteville Street

Boundaries:

Lawson Street
Cornwallis Road

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe/Road Diet

Function:

Bicycle Commuter Route
Major North-South Route

Trip Generators:

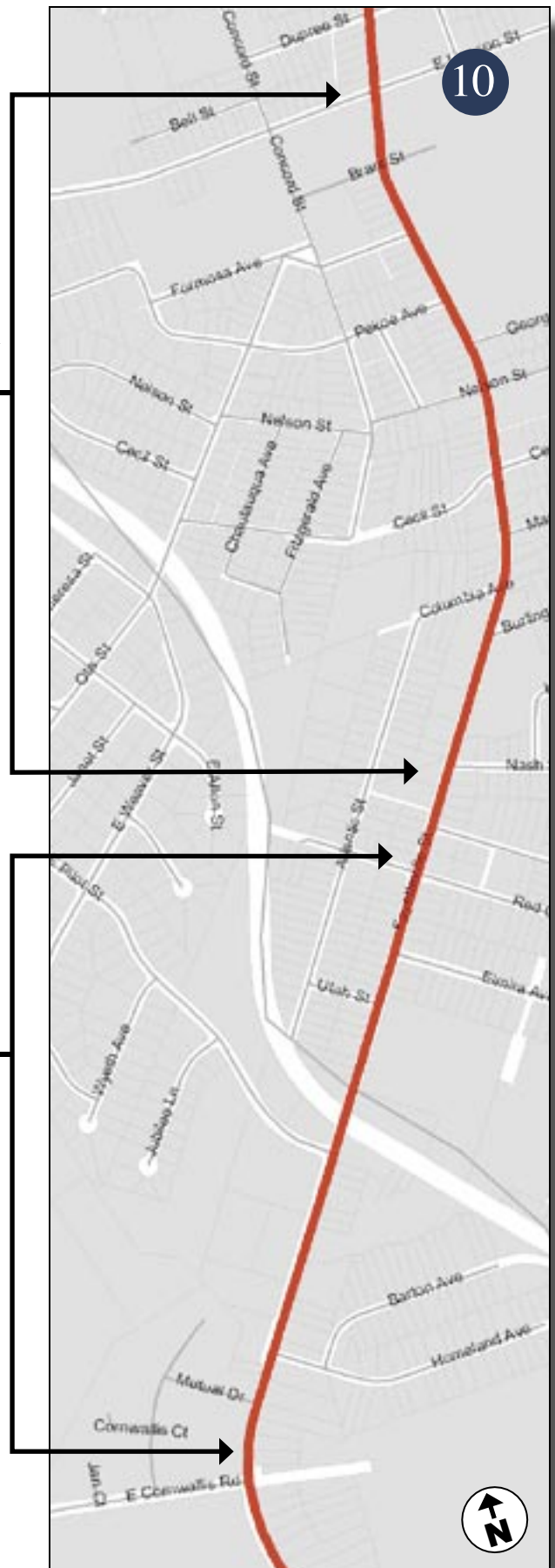
NC Central University
American Tobacco Trail

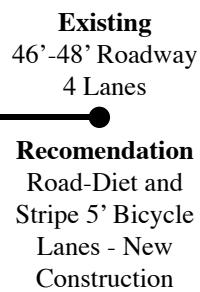
Existing
48' Roadway
2 Lanes + Limited
Parking

Recommendation
Road-Diet and
Stripe 5' Bicycle
Lanes

Existing
40' Roadway
2 Lanes + Limited
Parking

Recommendation
Road-Diet and
Stripe 5' Bicycle
Lanes





Project: Foster Street

Boundaries:

Morgan Street
Washington Street

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe/Restripe

Function:

Local Bicycle Route
Link to Downtown

Trip Generators:

Durham Athletic Park
Central Park
Farmer's Market

Existing
38' Roadway
2 Lanes + Limited
Parking

Recommendation
Stripe 5' Bicycle
Lanes and Relocate
Parking to One
Side of the Street





↑
Recommendation
Continue with
Shared Road

Project: Hillsborough Road

Boundaries:

Fifteenth Street
Ninth Street

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe/Restripe

Function:

Local East-West Route
Bicycle Commuter Route

Trip Generators:

Duke University
Ninth Street Commercial Area

Existing
46' Roadway
4 Lanes

Recommendation
Road-Diet and
Stripe 5' Bicycle
Lanes

Recommendation
Continue with
Shared Road

↓

Project: Lawson Street

Boundaries:

Roxboro Road

Fayetteville St

Facility:

Paint - Shared Road/Sharrow

Project Type:

Stripe/Restripe

Function:

Bicycle Commuter Route

Local East-West Route Component

Trip Generators:

NC Central University

American Tobacco Trail

Existing
30' Roadway
2 Lanes + Parking
on One Side

Recommendation
Paint Sharrow
Marking





Project: Leon Street

Boundaries:

N Duke Street
Broad Street

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe

Function:

Bicycle Commuter Route
School Access

Trip Generators:

North Pointe Shopping Center
High Density Residential Areas

Existing

36' Roadway
2 Lanes

Recommendation

Stripe 5' Bicycle
Lanes

Project: Liberty Street

Boundaries:

Roxboro Road
Alston Avenue

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe/Restripe

Function:

Bicycle Commuter Route
Local East-West Route

Trip Generators:

Downtown Business District
High Density Residential Areas

Existing
36' Roadway
2 Lanes + Parking

Recommendation
Paint Sharrow
Marking

Existing
40' Roadway
3 Lanes/One Way

Recommendation
Stripe 5' Bicycle
Lanes and Reduce
Travel Lanes





Project: West Main Street

Boundaries:

Hillsborough Road
Ninth Street

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe/Restripe

Function:

Bicycle Link Between Duke Univ.
East and West Campuses

Trip Generators:

Duke University
Ninth Street Commercial Area

Existing

30' Roadway
2 Lanes

Recommendation

Stripe 5' Bicycle
Lanes and Reduce
Travel Lanes

Existing

63' Roadway
4 Lanes

Recommendation

Stripe 5' Bicycle
Lanes and Reduce
Travel Lanes

Existing

47' Roadway
3 Lanes

Recommendation

Stripe 5' Bicycle
Lanes and Reduce
Travel Lanes

Project: West Main Street

Boundaries:

Ninth Street
Buchanan Blvd

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe/Restripe

Function:

Bicycle Link Between Duke Univ.
East and West Campuses

Trip Generators:

Duke Univeristy
Ninth Street Commercial Area

Existing
40' Roadway
2 Lanes

Recommendation
Stripe 5' Bicycle
Lanes

Existing
50' Roadway
4 Lanes

Recommendation
Road Diet and
Stripe 5' Bicycle
Lanes





Paint Sharrows

Project: East Main Street

Boundaries:

Corcoran Street
Fayetteville Street

Facility:

5' Bicycle Lanes and Sharrow

Project Type:

Paint - Stripe/Restripe

Function:

Major East-West Route Component
Bicycle Commuter Route

Trip Generators:

High Density Residential Areas
Downtown Business District

Existing
26' Roadway
2 Lanes + Limited
Parking

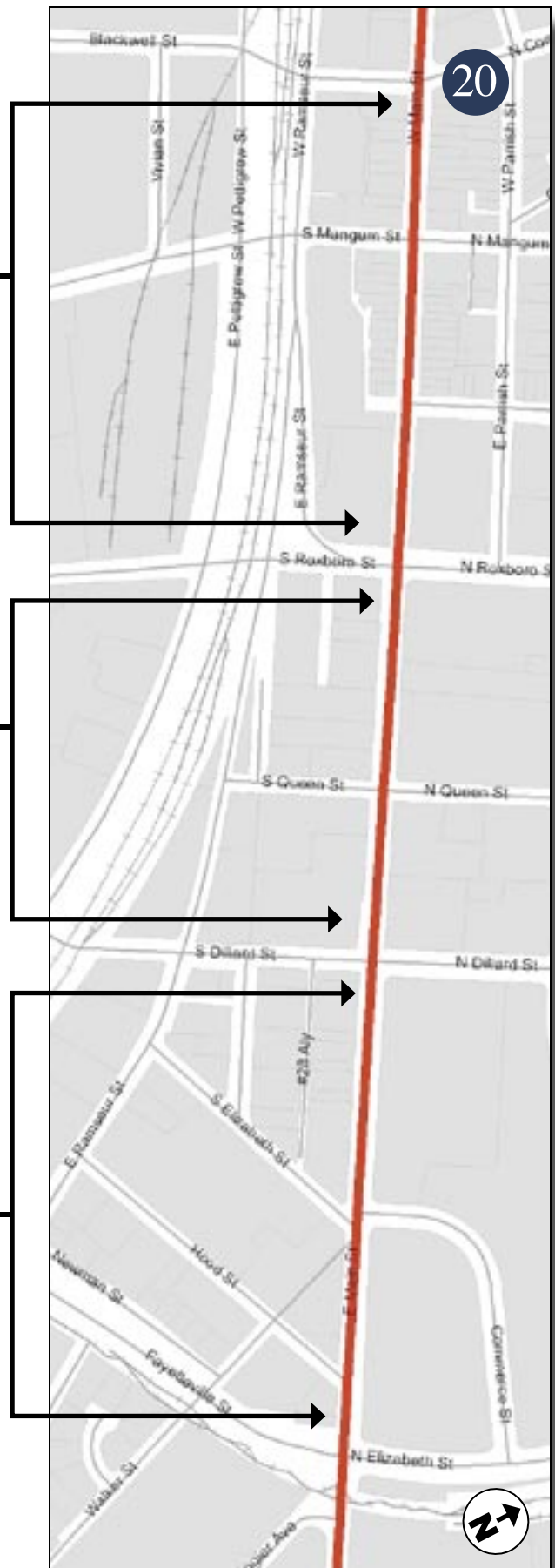
Recommendation
Paint Sharrow
Marking on Road

Existing
40' Roadway
2 Lanes + Limited
Parking

Recommendation
Stripe 5' Bicycle
Lanes where
Parking is Absent
and Stripe
Edgelines Where
Parking is Present

Existing
44' Roadway
2 Lanes + Limited
Parking

Recommendation
Stripe 5' Bicycle
Lanes where
Parking is Absent
and Stripe
Edgelines Where
Parking is Present





Project: East Main Street

Boundaries:

Fayetteville Street

Driver Street

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe/Restripe

Function:

Major East-West Route

Bicycle Commuter Route

Trip Generators:

High Density Residential Areas

Downtown Business District

Existing
40' Roadway
2 Lanes + Limited
Parking

Recommendation

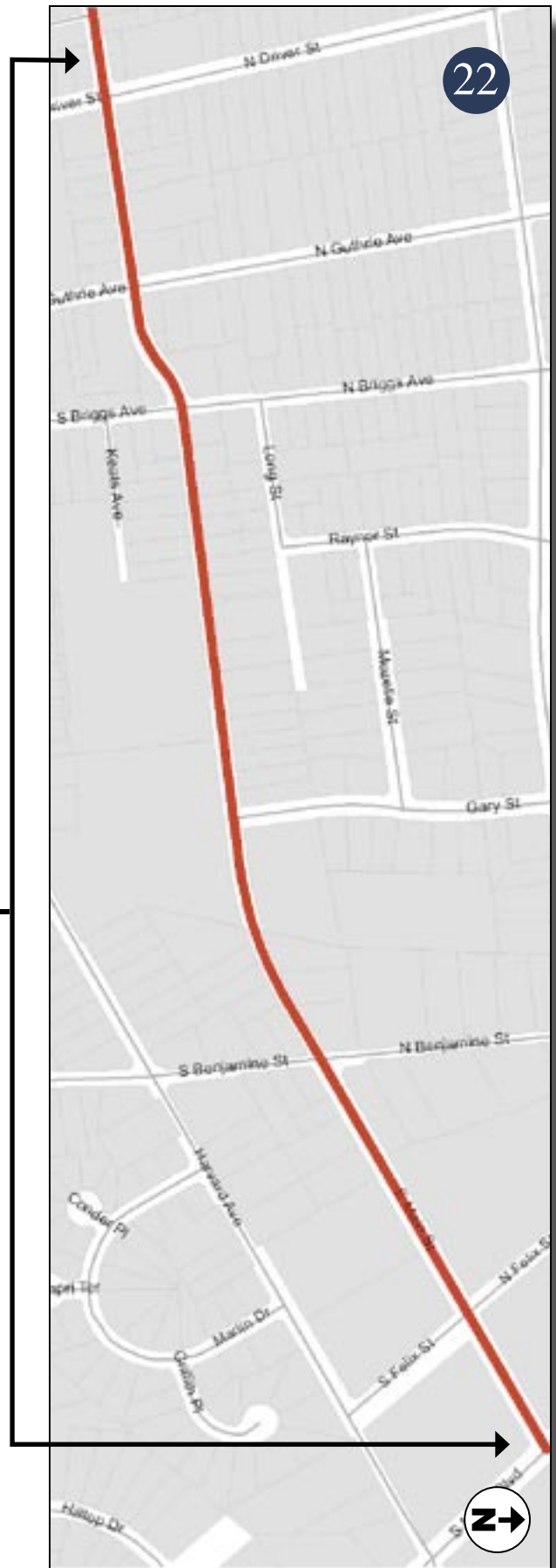
Stripe 5' Bicycle Lanes

Existing
30' Roadway
2 Lanes + Limited
Parking

Recommendation
 Stripe 5' Bicycle
 Lanes where
 Parking is Absent
 and Stripe
 Edgelines Where
 Parking is Present
 or Paint Sharrow
 Marking

High Density Residential Areas

Recommendation
Stripe 5' Bicycle
Lanes where
Parking is Absent
and Stripe
Edgelines Where
Parking is Present





Project: Morehead Street

Boundaries:

Blackwell Street
Kent Street

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe/Restripe

Function:

Local East-West Route
Bicycle Commuter Route

Trip Generators:

American Tobacco Trail
Downtown Business District

Existing
30' Roadway
4 Lanes

Recommendation
Stripe 5' Bicycle
Lane on Uphill
Sections

Existing
32' Roadway
2 Lanes

Recommendation
Stripe 5' Bicycle
Lanes

Existing
60' Roadway
4 Lanes

Recommendation
Stripe 5' Bicycle
Lanes

Project: Morehead Street

Boundaries:

Kent Street
Anderson Street

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe/Restripe

Function:

Local East-West Route Component
Bicycle Commuter Route

Trip Generators:

Duke University West Campus

Existing
43' Roadway
2 Lanes + Limited
Parking

Recommendation
Stripe 5' Bicycle
Lanes

Existing
35' Roadway
2 Lanes + Limited
Parking

Recommendation
Stripe 5' Bicycle
Lanes (on up hill
sections if limited)





Project: Roxboro Road

Boundaries:

Cornwallis Road
Lawson Street

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe/Restripe

Function:

Major North-South Route
Bicycle Commuter Route

Trip Generators:

NC Central University
American Tobacco Trail

Existing
30' Roadway
2 Lanes

Recommendation
Stripe 5' Bicycle
Lanes

Existing
64' Roadway
5 Lanes

Recommendation
Reduce Lane
Width and Stripe 5'
Bicycle Lanes

Project: Stadium Drive

Boundaries:

Carver Street
Horton Road

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe/Restripe

Function:

On-Road Alternative to N/S Greenway
Bicycle Commuter Link

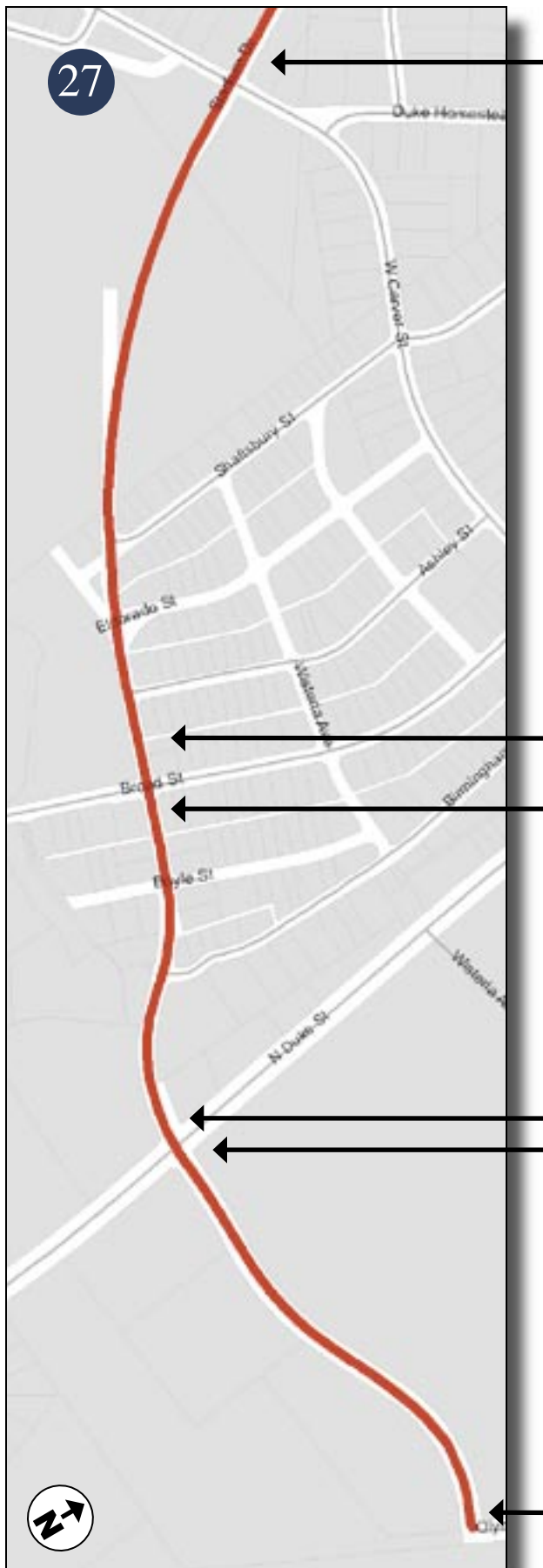
Trip Generators:

North South Greenway
Whippoorwill Park

Existing
38' Roadway
2 Lanes

Recommendation
Stripe 5' Bicycle
Lanes





Project: Stadium Drive

Boundaries:

Olympic Avenue
Carver Street

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe/Restripe

Function:

On-Road Alternative to N/S Greenway
Bicycle Commuter Link

Trip Generators:

North South Greenway
Rock Quarry Park

Existing
40' Roadway
2 Lanes

Recommendation
Stripe 5' Bicycle
Lanes

Existing
38' Roadway
2 Lanes

Recommendation
Stripe 5' Bicycle
Lanes

Existing
44' Roadway
2 Lanes

Recommendation
Stripe 5' Bicycle
Lanes

Project: Summit Street

Boundaries:

Roxboro Road
University Drive

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe and New Construction

Function:

Local Connector Link
Bicycle Commuter Route

Trip Generators:

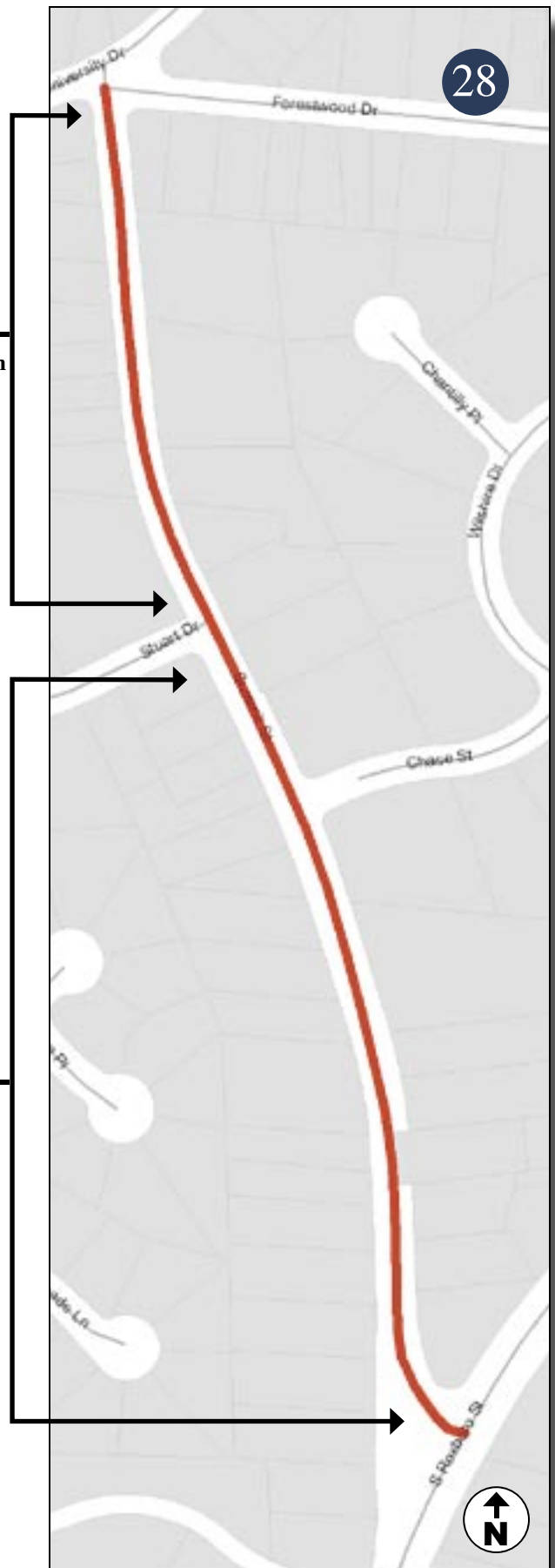
Forest Hills Park
High Density Residential Areas

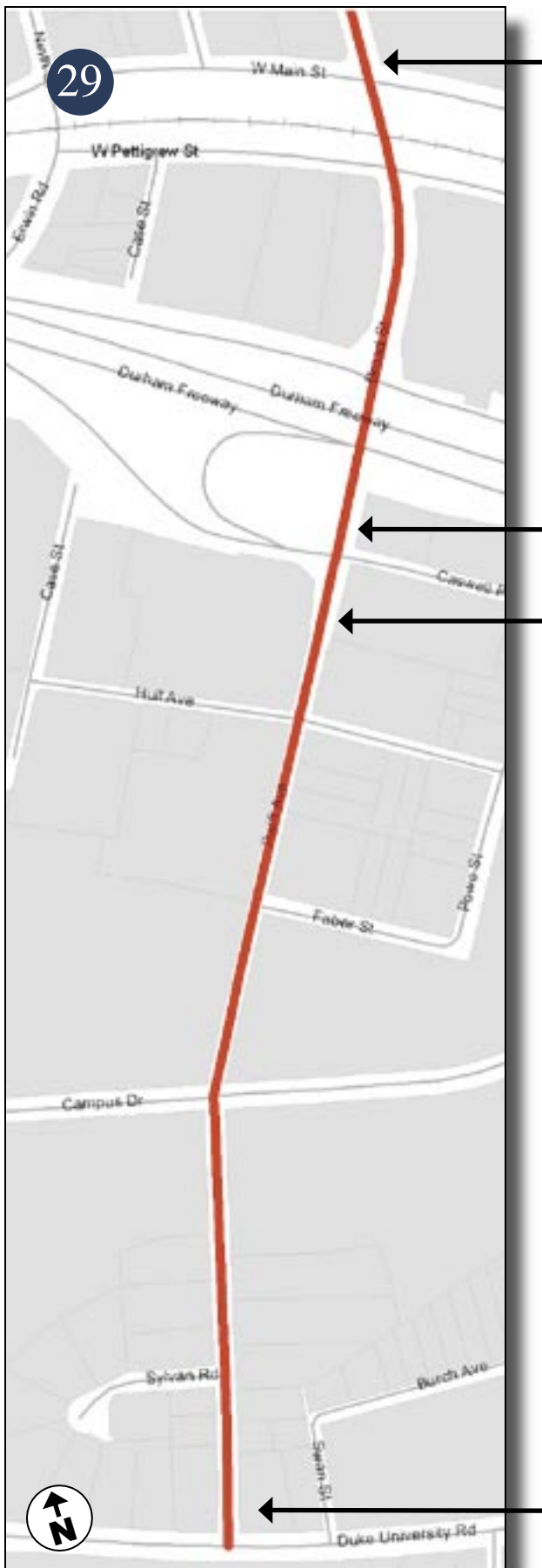
Existing
36' Roadway
2 Lanes

Recommendation
Stripe 5' Bicycle
Lanes

Existing
22' Roadway
2 Lanes

Recommendation
Widen Road and
Stripe 5' Bicycle
Lanes





Project: Swift Avenue

Boundaries:

Duke University Road
Main Street

Facility:

5' Bicycle Lanes

Project Type:

Paint - Restripe

Function:

Link over NC 147
Local North-South Route

Trip Generators:

Duke Univ. East/West Campuses
Ninth Street Commercial Area

Existing
58' Roadway
4-5 Lanes

Recommendation
Reduce Lane
Width and
Stripe 5' Bicycle
Lanes

Existing
30' Roadway
2 Lanes + Limited
Parking

Recommendation
Stripe 5' Bicycle
Lane on Uphill
Portion

Project: University Drive

Boundaries:

Cornwallis Road
Summit Street

Facility:

5' Bicycle Lanes

Project Type:

Stripe/Restripe

Function:

Bicycle Commuter Route
Major North-South Route Component

Trip Generators:

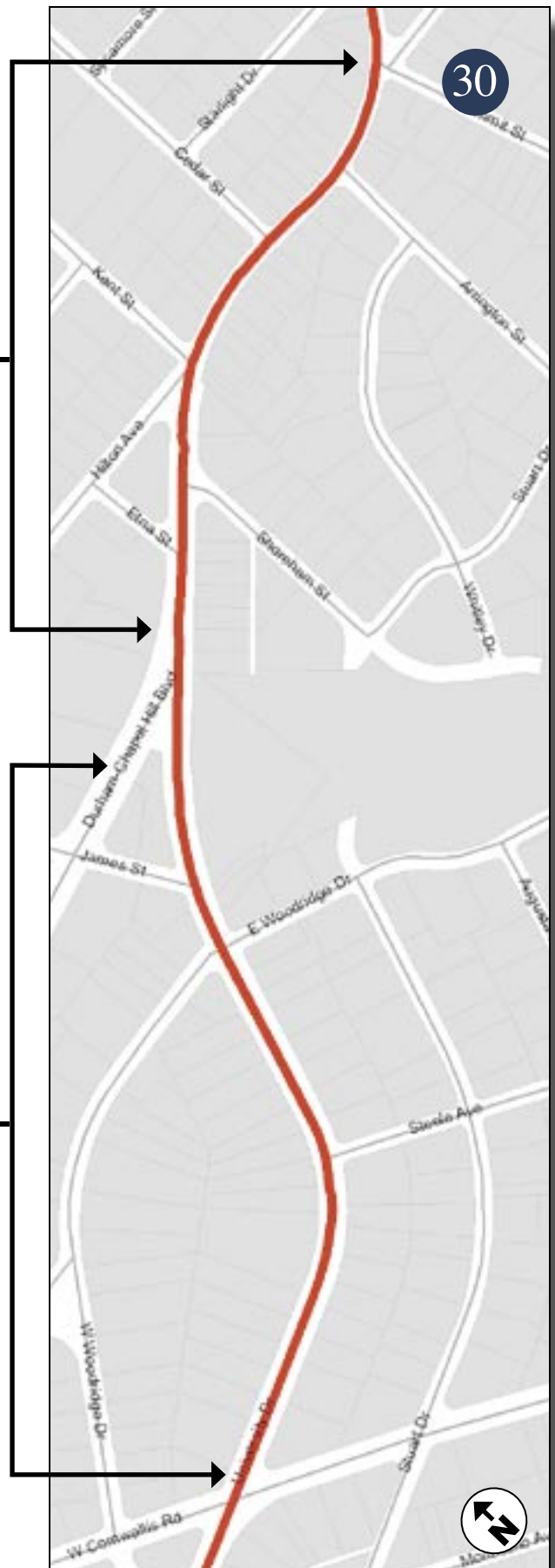
Commercial Areas
Forest Hills Park

Existing
36' Roadway
2 Lanes

Recommendation
Stripe 5' Bicycle
Lanes - Stripe
Uphill Sections
only, if Necessary

Existing
36' Roadway
2 Lanes

Recommendation
Stripe 5' Bicycle
Lanes





Project: University Drive

Boundaries:

Summit Street
American Tobacco Trail

Facility:

5' Bicycle Lanes

Project Type:

Paint - Road Diet and New Const.

Function:

Major North-South Route
Link To ATT

Trip Generators:

American Tobacco Trail
Commercial Areas

Existing
44' Roadway
4 Lanes

Recommendation
Road Diet and
Stripe 5' Bicycle
Lanes

Existing
30' Roadway
2 Lanes

Recommendation
Widen Road and
Stripe 5' Bicycle
Lanes and Stripe
Uphill Sections
only, if Necessary

Project: Washington Street

Boundaries:

Leon Street
Markham Avenue

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe/Restripe

Function:

Local North-South Route Component
Connection over I-85

Trip Generators:

North-South Greenway
Northgate Park

Existing
44' Roadway
2 Lanes

Recommendation
Stripe 5' Bicycle
Lanes

Existing
43' Roadway
2 Lanes

Recommendation
Stripe 5' Bicycle
Lanes

Existing
37' Roadway
2 Lanes

Recommendation
Stripe 5' Bicycle
Lanes





Project: Washington Street

Boundaries:

Markham Avenue
Morris Street

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe/Restripe

Function:

Local North-South Route
Connection to Downtown

Trip Generators:

Durham Farmer's Market
Central Park
Durham Athletic Park

Existing
44' Roadway
2 Lanes

Recommendation
Stripe 5' Bicycle
Lanes

Existing
30' Roadway
2 Lanes

Recommendation
Stripe 5' Bicycle
Lanes - Stripe
Uphill Sections
only, if Necessary

Project: Downtown Loop

Boundaries:

Complete Downtown Loop

Facility:

5' Bicycle Lanes

Project Type:

Paint - Stripe/Restripe/Road Diet

Function:

Central Hub of Durham's New Bicycle Network

Trip Generators:

American Tobacco Trail

Durham Bulls Athletic Park

American Tobacco Campus

Convention Center/Carolina Theater

Downtown Trail

Farmer's Market

And Much, Much More

Project Description:

The Downtown Loop is comprised of numerous roads, all of which are wide enough and suitable to stripe bicycle lanes. The Downtown Loop has a fairly high volume of automobile traffic and striping 5' bicycle lanes will provide a safer environment for bicyclists.